Sep. 1990
No. 60033

JVC Service Manual

1.5inch VIEWFINDER

MODEL VF-P115

VICTOR COMPANY OF JAPAN, LIMITED

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▒) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

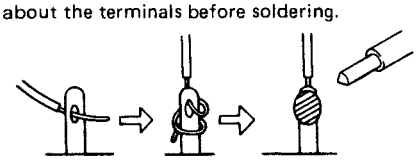


Fig. 1

7. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10—15 kg of force in any direction will not loosen it.

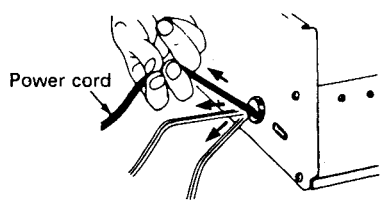


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

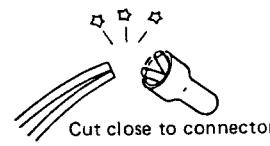


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

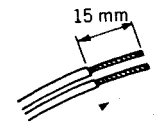


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

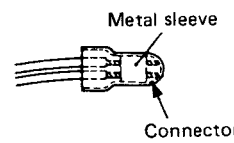


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

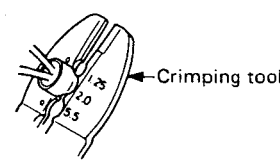


Fig. 6

(5) Check the four points noted in Fig. 7.

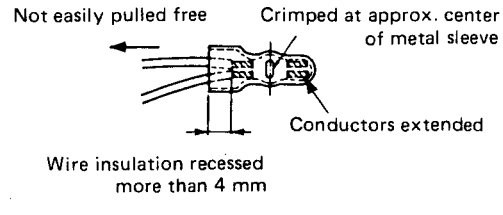

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

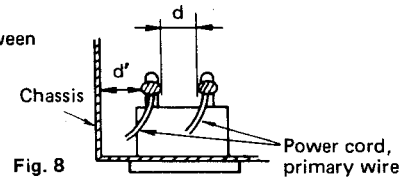


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

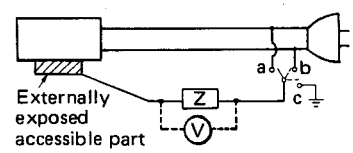


Fig. 9

5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

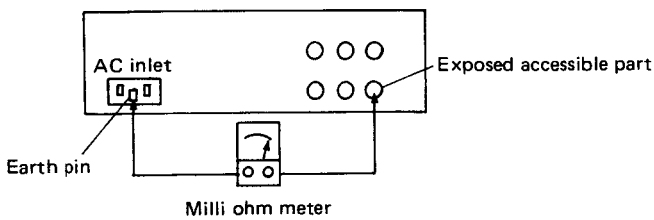


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

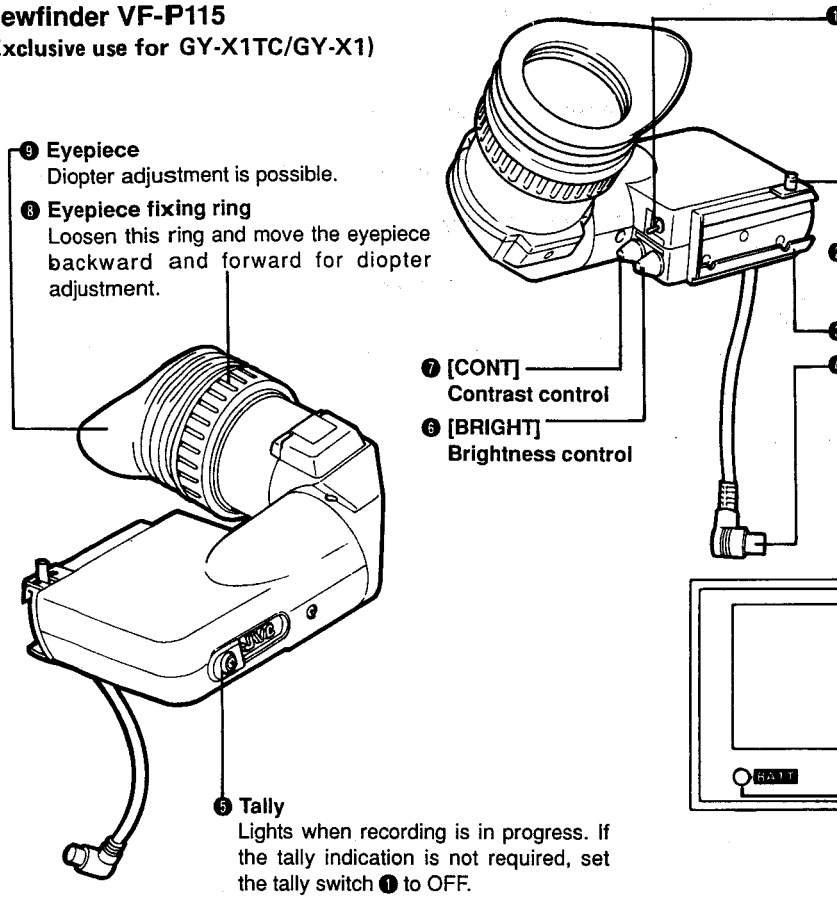
Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

Viewfinder VF-P115
(Exclusive use for GY-X1TC/GY-X1)



❶ [TALLY]
Set to OFF if you do not want to inform the people being shot that recording is on. The tally ❺ will not light, but the REC indicator ⓾ in the viewfinder will continue to function.

❷ Stopper screw
Prevents the viewfinder from coming off the camera head.

❸ Viewfinder shoe

❹ VF cable connector
Connector to connect the viewfinder to the camera head.

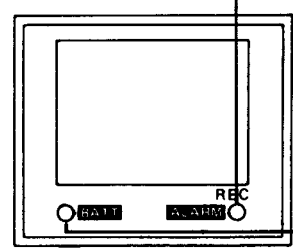
❺ Tally
Lights when recording is in progress. If the tally indication is not required, set the tally switch ❶ to OFF.

❻ [BRIGHT]
Brightness control

❼ [CONT]
Contrast control

❽ Eyepiece fixing ring
Loosen this ring and move the eyepiece backward and forward for diopter adjustment.

❾ Eyepiece
Diopter adjustment is possible.

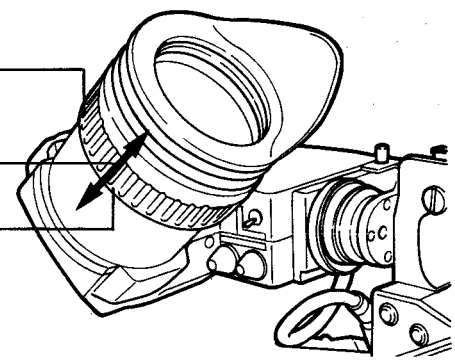


⓾ REC/ALARM indicator (green)
Lighs while recording. Blinks when the VTR malfunctions or the tape finishes.
(It also blinks when a recording is started. This indicates that the VTR is preparing to start recording, and is not a sign of a malfunction.)

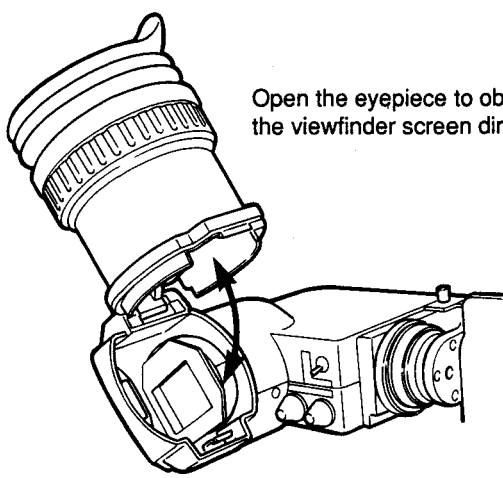
⓫ BATT indicator (red)
Lights when the battery becomes low.

• Diopter adjustment

1. Loosen the ring.
2. Move the eyepiece backward and forward to suit your eyesight.
3. Tighten the ring.

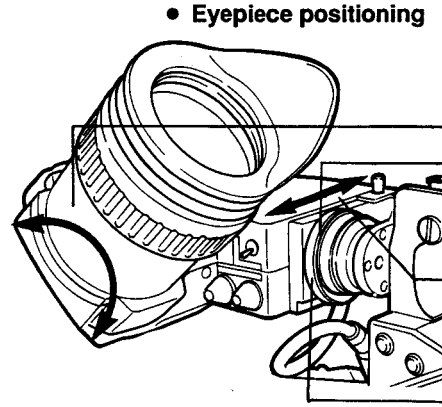


• Eyepiece opening/closing



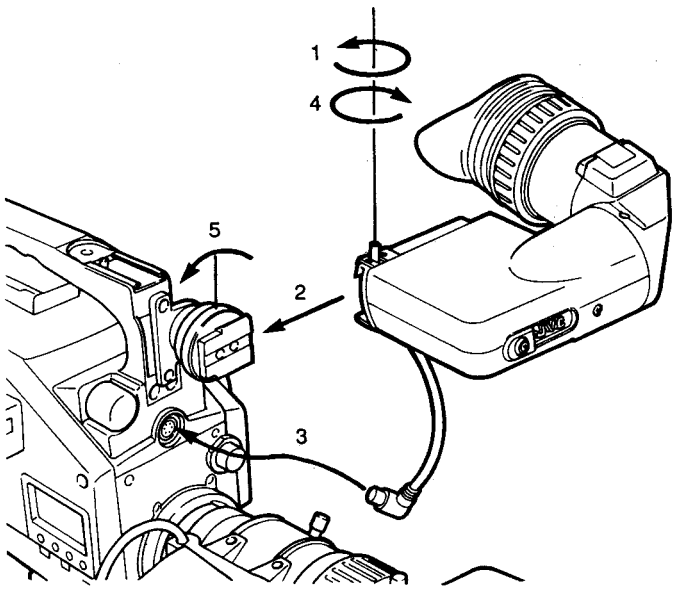
Open the eyepiece to observe the viewfinder screen directly.

• Eyepiece positioning



1. Adjust the angle of the eyepiece in the vertical direction.
2. Loosen the ring.
3. Move the eyepiece to the left or right for optimum viewability.
4. Tighten the ring.

• Attaching the VF-P115 viewfinder to the camera (GY-X1TC/GY-X1)



1. Loosen the stopper screw.
2. Attach the viewfinder with its guide aligned with the shoe.
3. Connect the cable.
4. Tighten the stopper screw.
5. Tighten the ring.

• Specification

CRT	:	1.5 inch
Resolution	:	500 lines or more
Input signal	:	Composite 1 Vp-p, high impedance
Available functions	:	Top tally lamp (with ON/OFF switch) Low battery indicator (RED) Recording indicator/tape travel alarm (GREEN) Contrast control Brightness control
Diopter control	:	provided
Power consumption	:	12 V DC, 3 W

SECTION 1
DISASSEMBLY

1.1 REMOVAL OF MAIN PARTS

1.1.1 Removal of bottom cover

1. Remove a screw ① from the bottom cover (see Fig. 1-1).

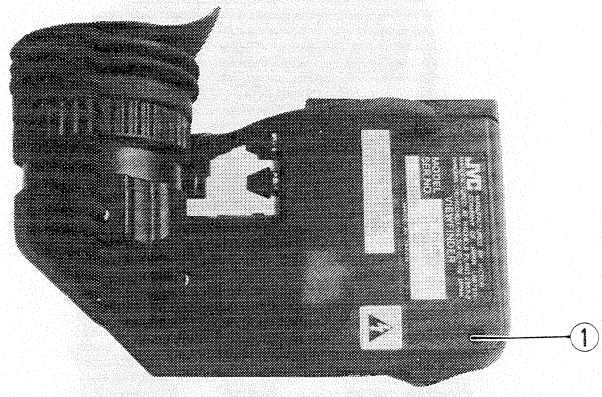


Fig. 1-1

2. Remove four screws ② on the side base.

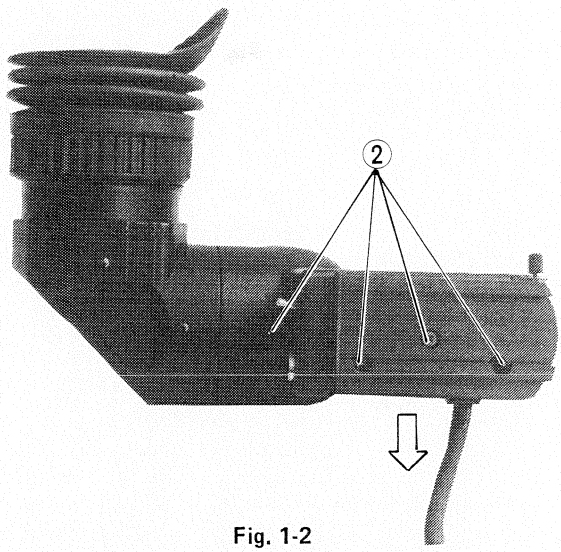


Fig. 1-2

3. Open the bottom cover Ⓐ in the direction of the arrow. (⇨).

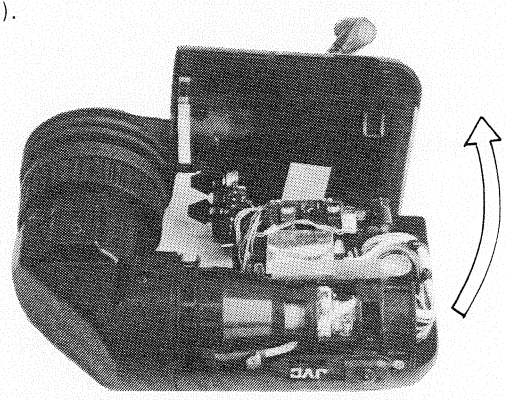


Fig. 1-3

1.1.2 Removal of CRT

1. Remove two screws ③ and remoe the eyepiece in the direction of the arrow.

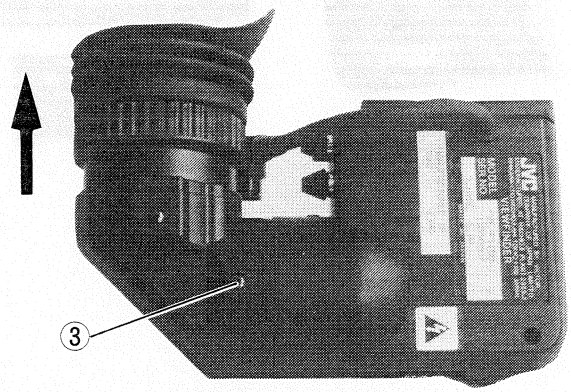


Fig. 1-4

2. Take off the bottom cover referring to the section 1.1.1.
3. Remove the ring Ⓑ toward the CRT socket side as the notch is held open.
4. Remove two screws ④ (one is on the reverse side) and open the CRT case.

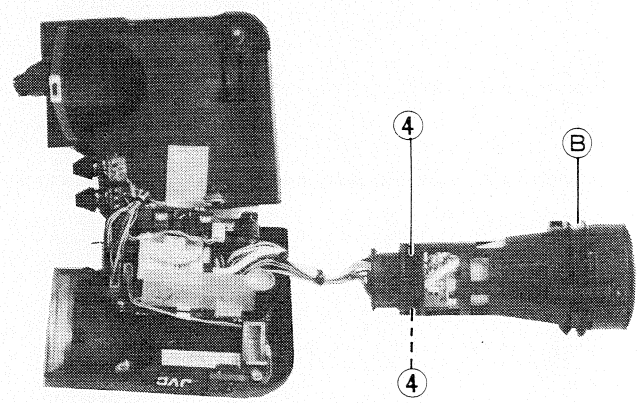


Fig. 1-5

5. Disconnect the CRT socket Ⓒ from the CRT (see Fig. 1-6).
6. After discharging from the anode electrode of the CRT to the chassis or the FBT cover Ⓓ, disconnect the anode plug Ⓔ.

> The anode electrode is located inside the rubber cover of the anode plug Ⓔ.
> Be the most careful not to get an electric shock.

7. Loosen a screw ⑤ fixing the CRT to the deflection yoke Ⓕ, and draw out the CRT from the deflection yoke in the direction of the arrow (⇦).

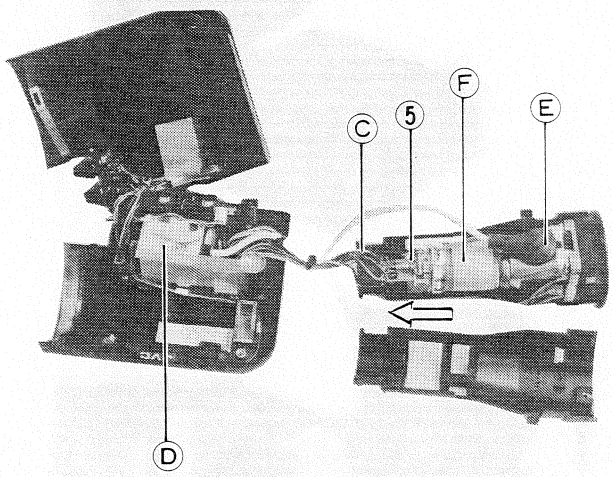


Fig. 1-6

1.1.3 Removal of P.C. board

1. Take off the bottom cover referring to the section 1.1.1.
2. Remove two screws ⑥ retaining the P.C. board.

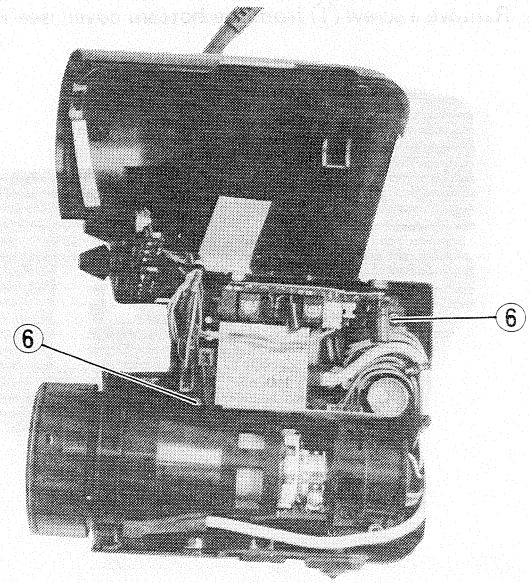


Fig. 1-7

SECTION 2
ADJUSTMENT PROCEDURE

2.1 ADJUSTING THE BRIGHTNESS

Adjust the BRIGHTNESS control for desired lightness or darkness of overall picture.
If the desired brightness is not attained, adjust the sub bright (VR7).

2.2 ADJUSTING THE CONTRAST

Adjust the CONTRAST control so that the picture is at brilliant as required yet does not flicker excessively.

2.3 ADJUSTING THE FOCUS

1. Set the FOCUS control (VR6) for best overall definition and picture detail.
2. Reducing the brightness, check to make sure focus is satisfactory at all brightness levels.

2.4 ADJUSTING THE VERTICAL HEIGHT AND LINEARITY

1. Set the receiving picture to crosshatch or a pattern with which symmetry can be checked.
2. Adjust the vertical size and linearity with the V.HEIGHT control (VR4).

2.5 ADJUSTING THE VERTICAL HOLD

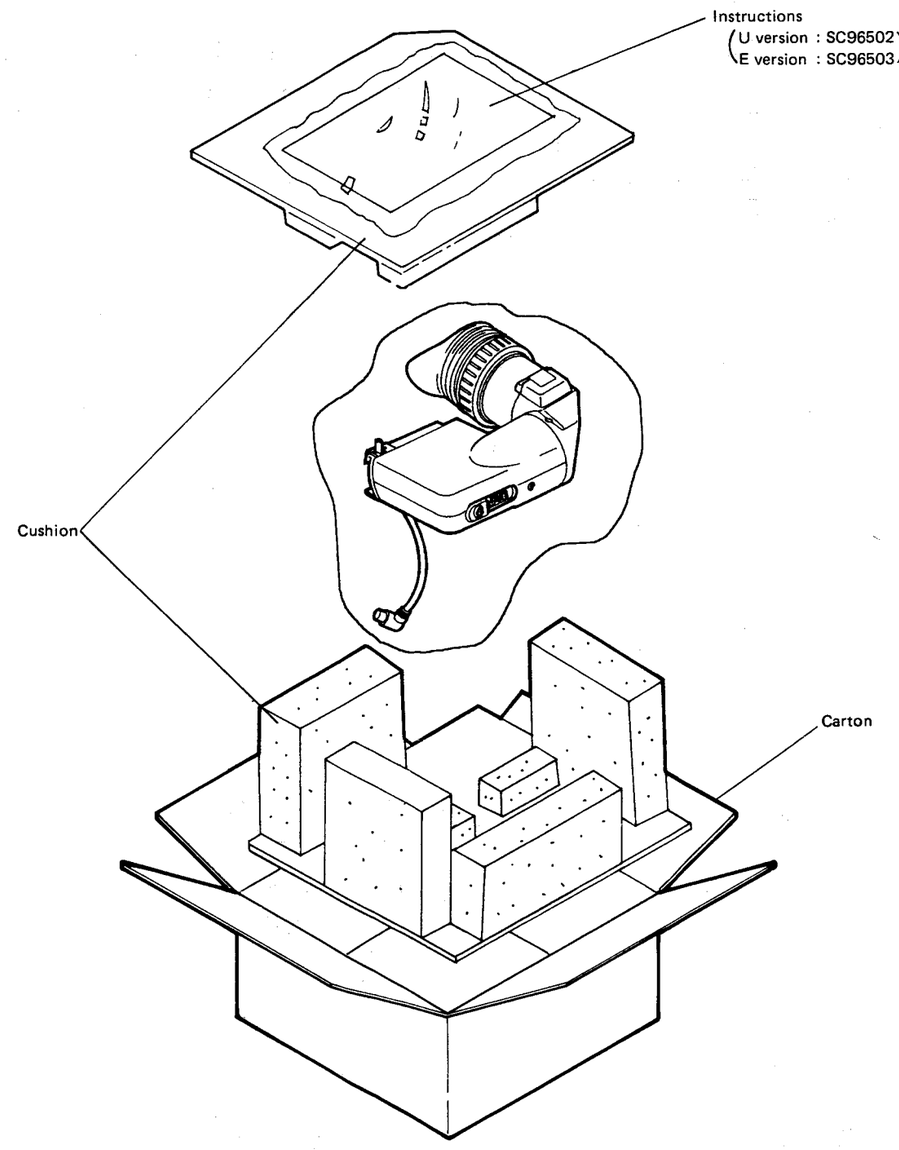
Adjust V-HOLD control (VR5) to stabilize picture only if picture "rolls" up or down.

2.6 ADJUSTING THE HORIZONTAL HOLD AND SIZE

1. Adjust the H-HOLD control (VR3) until picture is in view and locks.

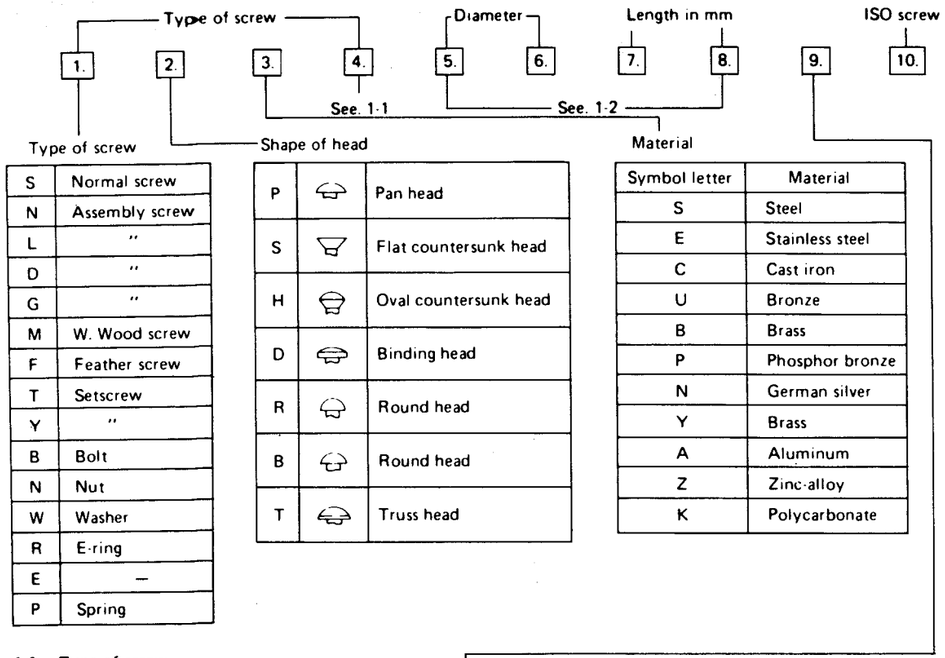
SECTION 3
REPACKING

3.1 REPACKING



SECTION 4
EXPLODED VIEW AND PARTS LIST

Note: Replacing marked ⚠ parts, be sure to use parts specified for safety purposes.
In this exploded views the part number of the screws and washers designate the type and dimensions* of those items.
The following examples will help you to decipher them.



Type of screw	
S	Normal screw
N	Assembly screw
L	"
D	"
G	"
M	W. Wood screw
F	Feather screw
T	Setscrew
Y	"
B	Bolt
N	Nut
W	Washer
R	E-ring
E	—
P	Spring

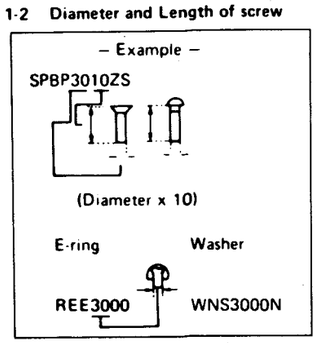
Shape of head		
P		Pan head
S		Flat countersunk head
H		Oval countersunk head
D		Binding head
R		Round head
B		Round head
T		Truss head

Material	
Symbol letter	Material
S	Steel
E	Stainless steel
C	Cast iron
U	Bronze
B	Brass
P	Phosphor bronze
N	German silver
Y	Brass
A	Aluminum
Z	Zinc-alloy
K	Polycarbonate

1-1 Type of screw

P	Cross-Recessed head screw
A	Tapping screw
B	Tapping screw
T	Tapping screw
E	Tapping screw

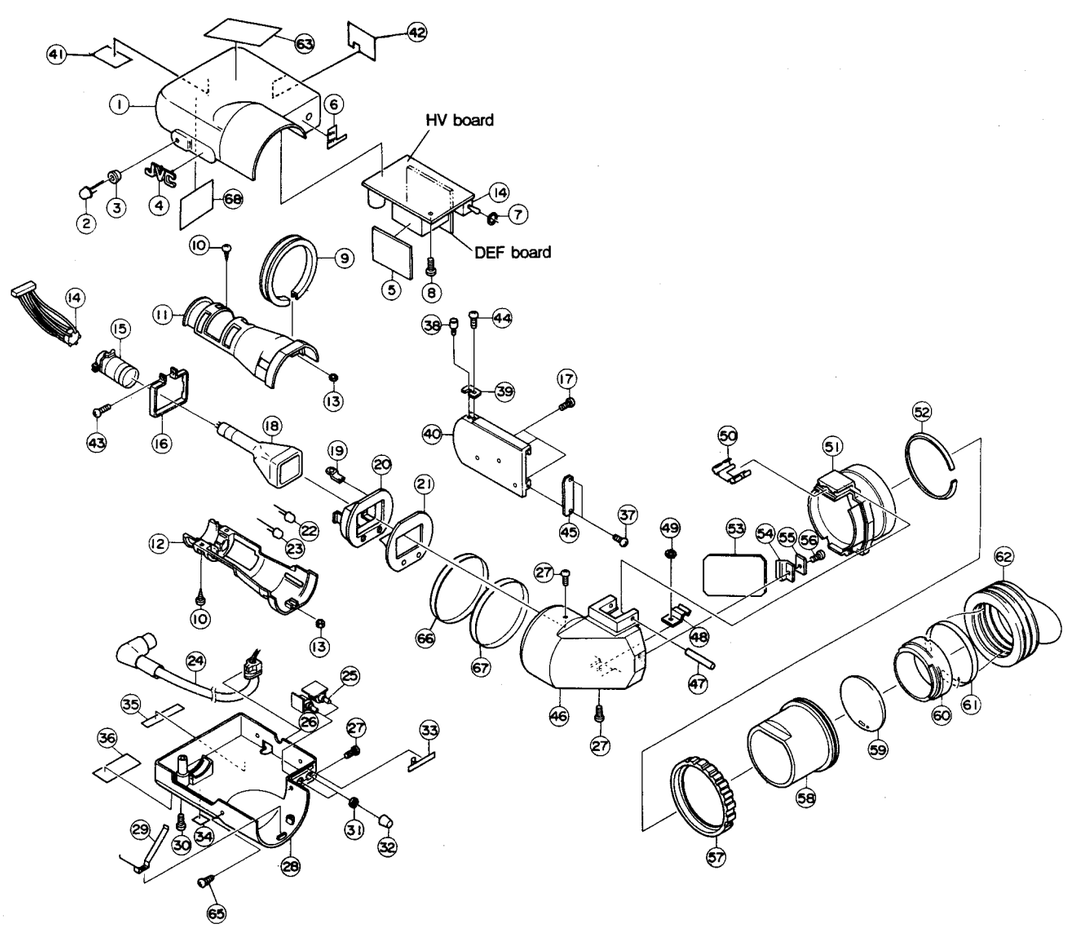
1-2 Diameter and Length of screw



Surface treatment

Surface treatment	
Symbol letter	Surface treatment
Z	Galvanization, dichromic acid treatment (MFZn2-C)
N	Nickel plating (MFNi2, MFNi1)
R	Chrome plating (MBCr2, MBCr1)
G	Silver plating (SP4)
W	Nichrome platings
P	Phosphite treatment
B	Bronze plating
M	Black coloring after galvanization
A	Red coloring after galvanization
C	Blue coloring after galvanization
T	Green coloring after galvanization
V	Violet coloring after galvanization
F	Iron with black coloring

4.1 VF-P115 EXPLODED VIEW M1



4-1

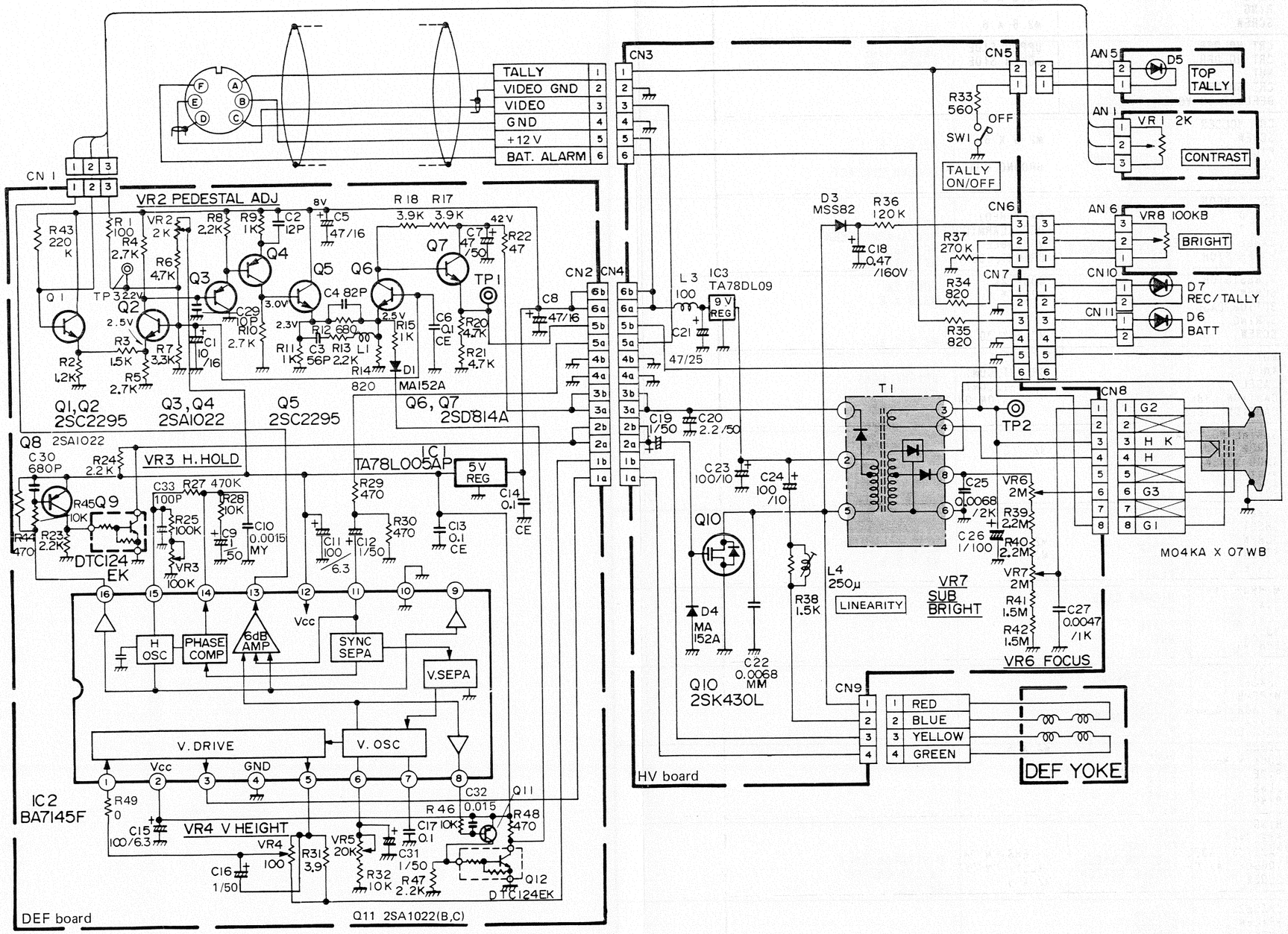
– VF-P115 assembly list –

M1MM□□□□

Symbol No.	Part No.	Part Name	Description
1	SC20415-001	UPPER CASE	TOP TALLY
2	ER-300	L.E.D.	
3	SM3512	LED MOUNT	
4	PGD30011-3	JVC LOGO MARK	
⚠ 5	SC44951-001	SHEET	
6	SC43486-001	LABEL	TALLY ON/OFF
7	SC43468-001	CUSHION	
8	LPSP2605Z	SCREW	M2.6 X 5
⚠ 9	SC44495-001	RING	
10	SBSF2606M	SCREW	M2.6 X 6
⚠11	SC31312-011	CRT HOLDER	UPPER SIDE
⚠12	SC31312-022	CRT HOLDER	LOWER SIDE
13	NNS2600N	NUT	
⚠14	SCV1273-001	CRT SOCKET	
⚠15	SCV1852-20A	DEFLECTION YOKE	
16	SC43463-001	CRT HOLDER	
17	SSSP2606M	SCREW	M2.6 X 6
⚠18	M04KAX07WB	PICTURE TUBE	
19	SC40909-001	PLATE	GROUND CONTACT
⚠20	SC31314-011	HOLDER	
21	SC43615-012	ESCUTCHEON	
22	TLR102A	L.E.D.	BATT(RED)
23	TLG102A	L.E.D.	REC/ALARM(GREEN)
24	SCV1857-00A	CABLE ASSEMBLE	VF CABLE
25	SCV0381-104	V.RESISTOR	BRIGHT,100K
26	SCV0381-202	V.RESISTOR	CONT,2K
27	SDSP2606M	SCREW	M2.6 X 6
⚠28	SC20418-011	BOTTOM CASE	
29	SC44551-001	SPRING	
30	SDSP2620M	SCREW	M2.6 X 20
31	SC40916-001	NUT	
32	SC40917-001	KNOB	BRIGHT,CONT
33	SC43485-001	LABEL	BRIGHT,CONT
34	SC42594-001	CAUTION LABEL	U VERSION ONLY
35	SC30544-001	CAUTION LABEL	
36	SC40997-001	SERIAL NO. PLATE	
37	SPSK2030M	SCREW	M2 X 3
38	SC44678-001	KNOB SCREW	
39	SC44679-001	PLATE	
40	SC31339-011	BASE	
41	SC41663-001	LABEL	
⚠42	SC44834-001	SHEET	
43	SDSP2008M	SCREW	M2 X 8
44	SPSK2025M	SCREW	M2 X 2.5
45	SC44680-001	PLATE	
⚠46	SC20336-011	MIRROR CASE	
47	SC43459-001	PIN	
48	SC43460-001	PLATE	
49	NNS2600N	NUT	
50	SC43491-002	SPRING	
⚠51	SC31041-012	LENS HOLDER	
⚠52	SC43457-001	SPACER	
53	SC43461-002	MIRROR	
54	SC43462-001	MIRROR HOLDER	
55	SC43614-001	PLATE	
56	SPSA2006M	SCREW	M2 X 6
⚠57	SC43458-011	LOCK RING	
⚠58	SC31040-001	PIPE	
59	SC42475-001	LENS	
⚠60	SC43455-001	RING	
61	SC43542-001	RING	
62	SC31039-002	EYE CAP	
63	SC41737-001	CAUTION LABEL	U VERSION ONLY
64	SCV1275-001	TOGGLE SWITCH	TALLYT ON/OFF
65	SPSH2660M	SCREW	M2 X 6
66	SC44864-001	SPACER	
67	SC44864-002	SPACER	
⚠68	SC44952-001	SHEET	

SECTION 5
SCHEMATIC DIAGRAM AND CIRCUIT BOARD

5.1 VF-P115 SCHEMATIC DIAGRAM

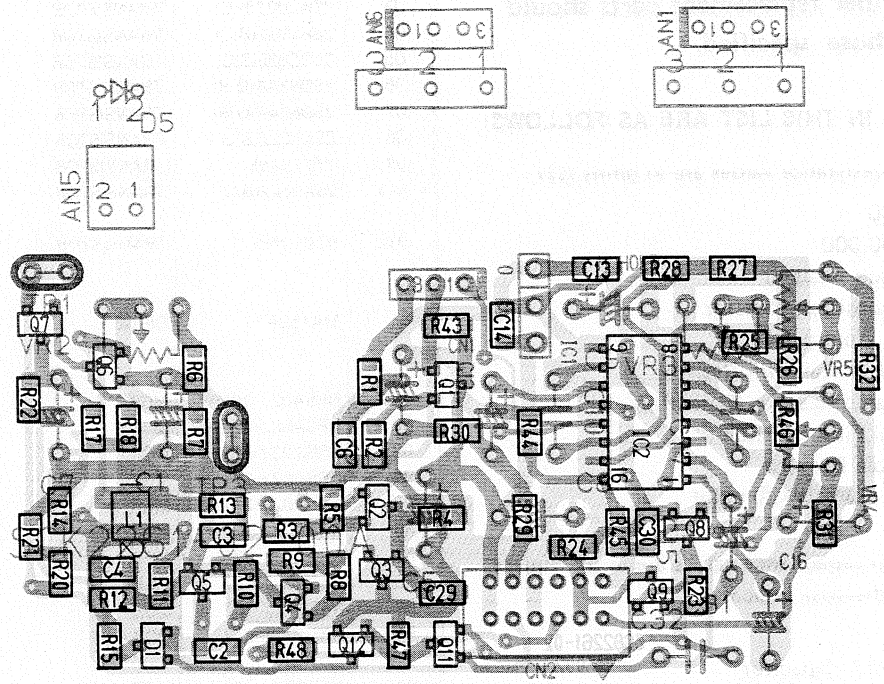


5-1

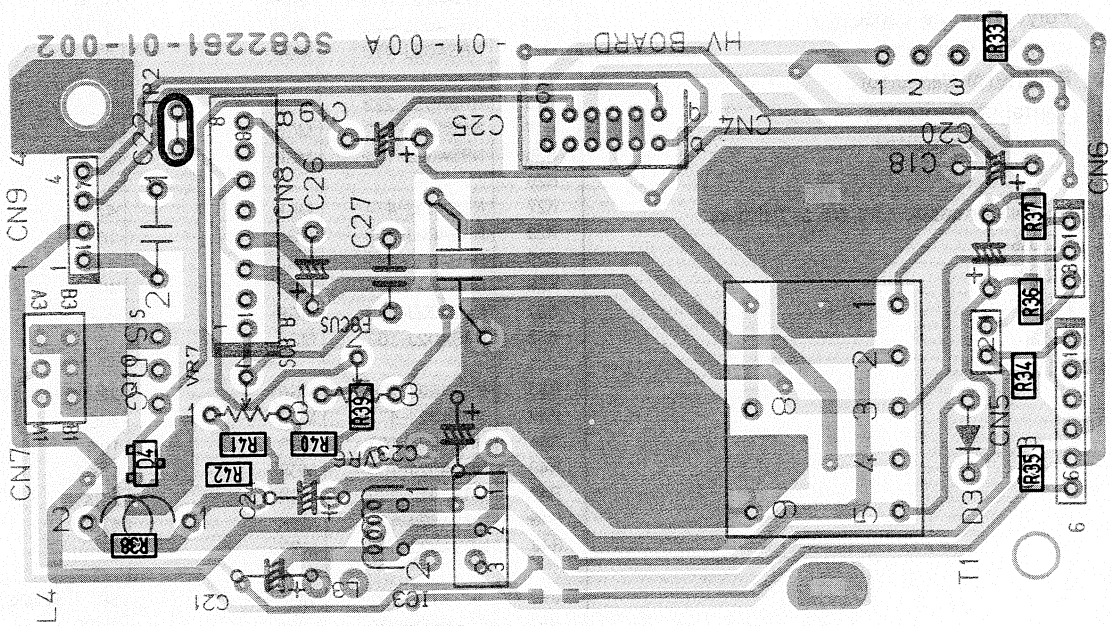
Revised on May. 1991

5.2 CIRCUIT BOARDS

● **DEF board**



● **HV board**



SECTION 6
ELECTRICAL PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers. For maximum reliability and performance, all other replacement parts should be identical to those specified.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

RESISTORS – All resistance values are in ohms (Ω).

K	:	1 000
M	:	1 000 000
CR	:	Carbon Resistor
Comp. R	:	Composition Resistor
WR	:	Wire Wound Resistor
OMR	:	Oxide Metal Film Resistor
VR	:	Variable Resistor (Potentiometer)
MFR	:	Metal Film Resistor
FR	:	Fusible Resistor
UNF R	:	Non-Flamable Resistor

CAPACITORS – All capacitance values are in μF, unless otherwise indicated.

P	:	μμF
C Cap	:	Ceramic Capacitor
E Cap	:	Electrolytic Capacitor
FM Cap	:	Film Mica Capacitor
MM Cap	:	Metalized Mylar Capacitor
MP Cap	:	Metalized Paper Capacitor
MY Cap	:	Mylar Capacitor
NP Cap	:	Non-polar Capacitor
PC Cap	:	Polycarbonate Capacitor
PP Cap	:	Poly Pro Capacitor
PS Cap	:	Polystyrol Capacitor
T Cap	:	Tantalum Capacitor
TR Cap	:	Trimmer Capacitor

Tolerances of resistors or capacitors are as follows:

M	:	± 20%
K	:	± 10%
J	:	± 5%
G	:	± 2%
F	:	± 1%

6.1 DEF board assembly [0][1]

[0][1][ ][ ][ ][ ][ ][ ]

Symbol No.	Part No.	Part Name	Description	
IC1	TA78L005AP	I.C.(M)	TOSHIBA	
IC2	BA7145F	I.C.(M)	ROHM	
Q1	2SC2295(B.C)	TRANSISTOR	MATSUSHITA	
Q2	2SC2295(B.C)	TRANSISTOR	MATSUSHITA	
Q3	2SA1022(B.C)	TRANSISTOR	MATSUSHITA	
Q4	2SA1022(B.C)	TRANSISTOR	MATSUSHITA	
Q5	2SC2295(B.C)	TRANSISTOR	MATSUSHITA	
Q6	2SD814A(Q.R)	TRANSISTOR	MATSUSHITA	
Q7	2SD814A(Q.R)	TRANSISTOR	MATSUSHITA	
Q8	2SA1022(B.C)	TRANSISTOR	MATSUSHITA	
Q9	DTC124EK	TRANSISTOR	ROHM	
Q11	2SA1022(B.C)	TRANSISTOR	MATSUSHITA	
Q12	DTC124EK	TRANSISTOR	ROHM	
D1	MA152A	DIODE	MATSUSHITA	
R1	NRSA02J-101	MGR	100	1/10W
R2	NRSA02J-122	MGR	1.2K	1/10W
R3	NRSA02J-152	MGR	1.5K	1/10W
R4	NRSA02J-272	MGR	2.7K	1/10W
R5	NRSA02J-272	MGR	2.7K	1/10W
R6	NRSA02J-102	MGR	1.0K	1/10W
R7	NRSA02J-332	MGR	3.3K	1/10W
R8	NRSA02J-222	MGR	2.2K	1/10W
R9	NRSA02J-102	MGR	1.0K	1/10W
R10	NRSA02J-272	MGR	2.7K	1/10W
R11	NRSA02J-102	MGR	1.0K	1/10W
R12	NRSA02J-681	MGR	680	1/10W
R13	NRSA02J-222	MGR	2.2K	1/10W
R14	NRSA02J-821	MGR	820	1/10W
R15	NRSA02J-102	MGR	1.0K	1/10W
R17	NRSA02J-392	MGR	3.9K	1/10W
R18	NRSA02J-392	MGR	3.9K	1/10W
R20	NRSA02J-472	MGR	4.7K	1/10W
R21	NRSA02J-472	MGR	4.7K	1/10W
R22	NRSA02J-470	MGR	47	1/10W
R23	NRSA02J-222	MGR	2.2K	1/10W
R24	NRSA02J-222	MGR	2.2K	1/10W
R25	NRSA02J-104	MGR	100K	1/10W
R26	–	–		
R27	NRSA02J-474	MGR	470K	1/10W
R28	NRSA02J-103	MGR	10K	1/10W
R29	NRSA02J-471	MGR	470	1/10W
R30	NRSA02J-471	MGR	470	1/10W
R31	NRSA02J-3R9	MGR	3.9	1/10W
R32	NRSA02J-103	MGR	10K	1/10W
R43	NRSA02J-224	MGR	220K	1/10W
R44	NRSA02J-471	MGR	470	1/10W
R45	NRSA02J-103	MGR	10K	1/10W
R46	NRSA02J-103	MGR	10K	1/10W
R47	NRSA02J-222	MGR	2.2K	1/10W
R48	NRSA02J-471	MGR	470	1/10W
R49	NRSA02J-0R0	MGR	0	
VR2	QVPB614-202	VR	2K	PEDESTAL ADJ
VR3	QVPB614-104	VR	100K	H.HOLD
VR4	QVPB614-101	VR	100	V.HEIGHT

6.2 HV board assembly [0][2]

[0][2]□□□□□□□

Symbol No.	Part No.	Part Name	Description	
VR5	QVPB614-203	VR	20K	V.HOLD
C1	QER40JM-107	E CAP	100	6.3V
C2	NCT03CH-120	C CAP	12P	50V
C3	NCT03CH-560	C CAP	56P	50V
C4	NCT03CH-820	C CAP	82P	50V
C5	QER41CM-476	E CAP	47	16V
C6	NCF21EZ-104	C CAP	0.10	25V
C7	QETA1HM-476	E CAP	47	50V
C8	QER41CM-476	E CAP	47	16V
C9	QER41HM-105	E CAP	1.0	50V
C10	QFN41HJ-152	MY CAP	1500P	50V
C11	QER40JM-107	E CAP	100	6.3V
C12	QER41HM-105	E CAP	1.0	50V
C13	NCF21EZ-104	C CAP	0.10	25V
C14	NCF21EZ-104	C CAP	0.10	25V
C15	QER40JM-107	E CAP	100	6.3V
C16	QER41HM-105	E CAP	1	50V
C17	QFB51EJ-104	MY CAP	0.10	25V
C29	NCT03CH-100	C CAP	10P	50V
C30	NCT03CH-681	C CAP	680P	50V
C31	QER41HM-105	E CAP	1.0	50V
C32	QFN41HJ-153	MY CAP	0.015	50V
C33	NCT03CH-101	C CAP	100P	
L1	SCV1950-820	PEAKING COIL	820	
CN1	SSV1591-S03	CONNECTOR	3 pin	
CN2	SCV1456-12S	CONNECTOR	12 pin	

Symbol No.	Part No.	Part Name	Description	
IC3	TA78DL09P	I.C.(M)	TOSHIBA	
Q10	2SK430L	F.E.T.	HITACHI	
D3	HSS82	SI.DIODE	HITACHI	
D4	MA152A	DIODE	MATSUSHITA	
R33	NRSA02J-561	MGR	560	1/10W
R34	NRSA02J-821	MGR	820	1/10W
R35	NRSA02J-821	MGR	820	1/10W
R36	NRSA02J-124	MGR	120K	1/10W
R37	NRSA02J-274	MGR	270K	1/10W
R38	NRSA02J-152	MGR	1.5K	1/10W
R39	NRSA02J-225	MGR	2.2M	1/10W
R40	NRSA02J-225	MGR	2.2M	1/10W
R41	NRSA02J-155	MGR	1.5M	1/10W
R42	NRSA02J-155	MGR	1.5M	1/10W
VR6	SCV0600-205	TRIM.RESISTOR	2M	FOCUS
VR7	SCV0600-205	TRIM.RESISTOR	2M	SUB BRIGHT
C18	QET42CR-474	E CAP	0.47	160V
C19	QER41HM-105	E CAP	1.0	50V
C20	QER41HM-225	E CAP	2.2	50V
C21	QETC1EM-476	E CAP	47	25V
C22	SCV0225-682	PP.CAPASITOR	0.0068	
C23	QETA1AM-107	E CAP	100	10V
C24	QETA1AM-107	E CAP	100	10V
C25	QCE13DM-682	C CAP	6800P	2000V
C26	QETA2AM-105	E CAP	1.0	100V
C27	QCE13AM-472	C CAP	4700P	1000V
L3	GP42267-021	CHOKE COIL		
L4	SCV1983-001	LINEARITY COIL		
S1	SCV1275-001	TOGGLE SWITCH		
CN3	SCV1227-006	CONNECTOR		
CN4	SCV1455-12P	CONNECTOR		
CN5	SSV1591-S02	CONNECTOR		
CN6	SSV1591-S03	CONNECTOR		
CN7	SCV1073-006	CONNECTOR		
CN8	SCV1227-008	CONNECTOR		
CN9	SCV1227-004	CONNECTOR		
⚠T1	SCV1958-001	F.B.T		